



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,706	02/05/2002	Samuel M. Lester	10016414-1	1900

7590

08/03/2005

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

MURPHY, DILLON J

ART UNIT	PAPER NUMBER
----------	--------------

2624

DATE MAILED: 08/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/072,706	Applicant(s) LESTER ET AL.	
	Examiner Dillon J. Murphy	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/28/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6, 8-10, 13, and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Dennis et al. (US 5,604,847), hereafter referred to as Dennis.

Regarding claim 1, Dennis teaches a method for real-time printing comprising:

During generation of a document, continually converting new document information into a fractional print job (Dennis, col 3, ln 42-51, during generation of document, document is converted into bandable primitives, i.e. fractional print jobs);

Sending each fractional print job to a printer (Dennis, col 4, ln 26-30, host computer sends bandable primitives to printer); and

Rendering each fractional print job as a raster data package (Dennis, col 4, ln 37-41, each band is rasterized into a bit-map data file for the particular band being processed).

Regarding claim 2, which depends from claim 1, Dennis teaches a method further comprising storing each raster data package in a memory on the printer (Dennis, col 4, ln 39-41, each rasterized band is stored in memory in the printer).

Art Unit: 2624

Regarding claim 6, which depends from claim 1, Dennis teaches a method wherein the converting further comprises formatting the fractional print job into a page description language (Dennis, col 3, ln 42-44, print jobs are formatted into a PDL and are banded to created fractional print jobs).

Regarding claim 8, which depends from claim 1, Dennis teaches a method wherein the generation of document information comprises:

Entering characters into a document, transferring characters into the document, drawing graphics into the document, downloading graphics into the document (Dennis, col 3, ln 21-29, document comprises texts and graphics which may be entered, transferred, drawn or downloaded into the document. See also col 6, ln 26-38 for further examples).

Regarding claim 9, which depends from claim 1, Dennis teaches a computer-readable medium comprising computer executable instructions configured to cause a computer to perform the method of claim 1 (Dennis, col 4, ln 14-24, host computer comprises CPU and memory configured to perform the method steps of claim 1. Processing occurs on metafile on col 4, ln 17 and col 4, ln 42, thus a computer-readable medium comprises computer executable instructions is inherent to the computer of Dennis).

Regarding claim 10, Dennis teaches a method for real-time printing comprising:

During generation of a document, continually converting new document information into a fractional print job (Dennis, col 3, ln 42-51, during generation of document, document is converted into bandable primitives, i.e. fractional print jobs); and

Storing each fractional print job to create a print job (Dennis, col 4, ln 30-33, banded primitives are stored as fractional jobs in memory).

Regarding claim 13, which depends from claim 10, Dennis teaches a method wherein the converting further comprises formatting the fractional print job into a page description language (Dennis, col 3, ln 42-44, print jobs are formatted into a PDL and are banded to created fractional print jobs).

Regarding claim 15, which depends from claim 10, Dennis teaches a method wherein the generation of a document comprises entering characters into the document, transferring characters into the document, drawing graphics into the document, downloading graphics into the document, and altering characteristics of the document (Dennis, col 3, ln 21-29, document comprises texts and graphics which may be entered, transferred, drawn or downloaded into the document. See also col 6, ln 26-38 for further examples).

Regarding claim 16, which depends from claim 10, Dennis teaches a computer-readable medium comprising computer executable instructions configured to cause a computer to perform the method of claim 10 (Dennis, col 4, ln 14-24, host computer comprises CPU and memory configured to perform the method steps of claim 1. Processing occurs on metafile on col 4, ln 17 and col 4, ln 42, thus a computer-readable medium comprising computer executable instructions is inherent to the computer of Dennis).

Regarding claim 17, Dennis further teaches a method for real-time printing comprising:

Art Unit: 2624

Receiving fractional print jobs (Dennis, col 4, ln 30-33, printer receives fractional print jobs sent from host computer);

Rendering each fractional print job as one or more raster data packages (Dennis, col 4, ln 37-41, each band is rasterized into a bit-map data file for the particular band being processed);

Storing each raster data package (Dennis, col 4, ln 39-41, each raster band is stored within a storage buffer).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-5, 7, 11, 12, 14, and 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dennis et al. (US 5,604,847) and Lahey et al. (US 6,092,089), hereafter referred to as Smith and Lahey.

Regarding claim 3, which depends from claim 2, Dennis teaches a method of real-time printing comprising converting a document into a fractional print job, sending each fractional print job to a printer, rendering each fractional print job into a raster data package, and storing each raster data package in memory on the printer, as explained in the rejection of claim 2 above. Dennis does not disclose a method comprising forming a raster page from one or more raster data packages. Lahey, however,

Art Unit: 2624

discloses the method of forming a raster page from one or more raster data packages (Lahey, col 3, ln 35-39, wherein the fractional raster data packages which comprise the complete print job are stored as raster page image files in a document database).

Dennis and Lahey are combinable because they are from the same field of endeavor of PDL and raster data file management in printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of forming a raster page from raster data packages from Lahey with the method of converting, sending, rendering, and storing fractional print jobs and raster data packages of Dennis. The motivation for doing so would have been to provide a processing interpretation of the PostScript data stream at a gateway to the database so that the document management data can be identified from the data stream for building page characteristics, as well as allowing the entire raster file to be stored for easy viewing and retrieval (Lahey, col 2, ln 41-47). Additionally, the motivation would have been to provide a printer which produces a finished page that looks exactly like the user intended with a system printing the page with less processing time than the prior art without requiring additional memory (Dennis, col 4, ln 9-13), as well as to provide a system which provides dramatic increases in speed and efficiency of data processing, as well as greatly increasing the printing speed as noticeable by the user (Dennis, col 9, ln 3-9). Therefore, it would have been obvious to combine Lahey with Dennis to obtain the invention as specified in claim 3.

Regarding claim 4, which depends from claim 3, the combination of Dennis and Lahey teaches a method further comprising:

After completion of the generation of document information, printing the raster page (Lahey, col 3, ln 39-42, completed pages are retrieved and printed).

Regarding claim 5, which depends from claim 4, the combination of Dennis and Lahey teaches a method wherein the completion of the generation of document information comprises receiving an instruction to print the document information (Lahey, col 3, ln 35-39, printing commences when print instruction is received).

Regarding claim 7, which depends from claim 6, the combination of Dennis and Lahey teaches a method wherein the page description language is a language selected from a group of languages comprising: Printer Control Language (PCL); and PostScript (Lahey, col 3, ln 26-28, the page description language is PostScript).

Regarding claim 11, which depends from claim 10, the combination of Dennis and Lahey teaches a method further comprising:

Receiving an instruction to print the document (Lahey, col 3, ln 35-39, printing commences when print instruction is received);

Sending the print job to a printer (Dennis, col 4, ln 26-30, host computer I/O interface sends job to printer); and

Printing the print job (Dennis, col 2, ln 47-50, data is read out of printer memory and printed).

Regarding claim 12, which depends from claim 11, the combination of Dennis and Lahey teaches a method wherein the printing further comprises rendering the print job as raster data (Dennis, col 4, ln 37-41, each band is rasterized into a bit-map data file for the particular band being processed).

Art Unit: 2624

Regarding claim 14, which depends from claim 13, the combination of Dennis and Lahey teaches a method wherein the page description language is a language selected from a group of languages comprising: Printer Control Language (PCL); and PostScript (Lahey, col 3, ln 26-28, the page description language is PostScript).

Regarding claim 18, which depends from claim 17, the combination of Dennis and Lahey teaches a method further comprising:

Receiving a print instruction, and printing all raster data packages (Lahey, col 3, ln 35-39, printing commences when print instruction is received, wherein print data is raster data at time of printing, col 3, ln 51-54. Raster data is also printed in Dennis, col 4, ln 39-41).

Regarding claim 19, which depends from claim 17, the combination of Dennis and Lahey teaches a method further comprising:

Receiving an updated job designated to update a prior fractional print job (Lahey, col 5, ln 27-30, the updated job is a replacement page file to replace fractional print job is received and associated with old data).

Rendering the updated job as one or more updated raster data packages, and storing each updated raster data package (Lahey, col 5, ln 52-56, once updated job is received, portion of total document is sent to a rasterizer and stored in database).

Regarding claim 20, which depends from claim 19, the combination of Dennis and Lahey teaches a method further comprising receiving a print instruction and printing all raster data packages (Lahey, col 3, ln 35-39, printing commences when print

Art Unit: 2624

instruction is received, wherein print data is raster data at time of printing, col 3, ln 51-54. Raster data is also printed in Dennis, col 4, ln 39-41).

Regarding claim 21, which depends from claim 17, the combination of Dennis and Lahey teaches a method wherein the storing further comprises forming a raster page from raster data packages (Lahey, col 3, ln 35-39, wherein the fractional raster data packages which comprise the complete print job are stored as raster page image files in a document database).

Regarding claim 22, which depends from claim 17, the combination of Dennis and Lahey teaches a computer-readable medium comprising computer executable instructions configured to cause a computer to perform the method of claim 17 (Dennis, col 4, ln 14-24, host computer comprises CPU and memory configured to perform the method steps of claim 1. Processing occurs on metafile on col 4, ln 17 and col 4, ln 42, thus a computer-readable medium comprises computer executable instructions is inherent to the computer of Dennis).

Regarding claim 23, the combination of Dennis and Lahey teaches a printer (Dennis, figure 2, #46, printer) comprising:

A processor (Dennis, figure 2, #56, print engine, wherein print engine performs processing and conversion actions, col 4, ln 59-62);

A memory (Dennis, figure 2, Storage buffer #54, and Memory #50); and

A collection module executable on the processor to receive fractional print jobs (Dennis, figure 2, printer I/O interface #48 receives fractional print jobs), convert fractional print jobs into raster data packages (Dennis, col 4, ln 37-41, each band is

Art Unit: 2624

rasterized into a bit-map data file for the particular band being processed), and store raster data packages as raster pages in the memory, each raster page comprising one or more raster data packages (Lahey, col 3, ln 35-39, wherein the fractional raster data packages which comprise the complete print job are stored as raster page image files in a document database).

Regarding claim 24, the combination of Dennis and Lahey teaches a computer (Dennis, figure 2, host computer #30) comprising:

A processor (Dennis, figure 2, CPU #38);

A memory (Dennis, figure 2, memory #32 and Metafile Storage Area #34);

An application program executable on the processor to generate a document (Lahey, figure 1, editor #11 allows for creation and editing of documents); and

A real-time driver configured to convert document information into fractional print jobs during generation of the document and send the fractional print jobs to a printer (Dennis, col 3, ln 42-51, during generation of document, document is converted into bandable primitives, i.e. fractional print jobs. Also see, col 4, ln 26-30, wherein host computer sends bandable primitives to printer).

Regarding claim 25, the combination of Dennis and Lahey teaches a system comprising:

A computer having a real-time driver (Dennis, col 4, ln 55-58, real-time driver), the real-time driver configured to continually convert newly generated document information into a fractional print job and to send each fractional print job to a printing device (Dennis, col 3, ln 42-51, during generation of document, document is converted

Art Unit: 2624

into bandable primitives, i.e. fractional print jobs. Also see, col 4, ln 26-30, wherein host computer sends bandable primitives to printer); and

The printing device having a collection module configured to receive each fractional print job (Dennis, I/O interface #48 receives fractional print jobs), convert each fractional print job into one or more raster data packages (Dennis, col 4, ln 37-41, each band is rasterized into a bit-map data file for the particular band being processed), and store the one or more raster data packages (Dennis, col 4, ln 39-41, each rasterized band is stored in memory in the printer);

Wherein, upon receiving a print instruction from the computer, the printing device immediately begins printing raster data packages (Lahey, col 3, ln 35-39, printing commences when print instruction is received).

Regarding claim 26, the combination of Dennis and Lahey teaches a system wherein a fractional print job includes an updated fractional print job that represents a change made to previously generated document information (Lahey, col 5, ln 27-30, the updated job is a replacement page file to replace fractional print job is received and associated with old data).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dillon J. Murphy whose telephone number is (571) 272-5945. The examiner can normally be reached on M-F, 8-5.

Art Unit: 2624

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DAVID MOORE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER